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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,400	03/19/2001	Lester F. Ludwig	LUDW-001/02-03US	7356

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EXAMINER	
FLETCHER, MARLON T	

ART UNIT	PAPER NUMBER
2837	

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/812,400	LUDWIG, LESTER F.0	
	Examiner	Art Unit	
	Marlon T Fletcher	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05/17/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,7-15 and 18-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7-15 and 18-26* is/are rejected.

7)☒ Claim(s) *27-29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, 7-15, and 18-20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Sgroi ('048) in view Gruenbaum and Smith et al. (6,018,118).

As recited in claims 1 and 2, Sgroi discloses a system for the generation of at least one outgoing real-time digital control signal based on at least one incoming control signal, the system comprising: an incoming control signal interface (54) adapted to receive the at least one incoming control signal; at least one control signal generator (62) adapted to generate the at least one outgoing real-time digital control signal based on the at least one incoming control signal, an outgoing control signal interface (66) adapted to communicate the generated at least one outgoing real-time digital control signal; and wherein the at least one incoming control signal is used to control events (58) and parameters associated with the at least one control signal generator as seen in figure 3.

As recited in claims 3 and 13, Sgroi discloses the system, wherein said at least one outgoing real-time digital control signal is in the form of a MIDI message (figure 4).

As recited in claims 4 and 14, Sgroi discloses the method, wherein said at least one outgoing real-time digital control signal is in the form of a MIDI message (figure 4).

As recited in claims 7-12, Sgroi discloses the system, wherein the at least one control signal generator comprises an envelope generator with at least one parameter controlled by the at least one incoming control signal; wherein the at least one control signal generator comprises a ramp generator with at least one parameter controlled by the at least one incoming control signal; wherein the at least one control signal generator comprises a slew limiter with at least one parameter controlled by the at least one incoming control signal as can be seen in figures 1 and 3, wherein as discussed in relation to figures 1 and 3, variations are applied to the incoming signals.

As recited in claim 15, Sgroi discloses the method for generating at least one outgoing digital control signal utilizing at least one control signal processor (62), the method comprising: processing a first incoming real-time control signal (figures 1, 3, and 4); processing a second incoming control signal (figures 1, 3, and 4); generating the at least one outgoing digital control signal based upon a combination of the first incoming real-time control signal and the second incoming control signal as seen in figures 1, 3, and 4; and wherein the first incoming real-time control signal, the second incoming control signal, and the at least one outgoing digital control signal comprise MIDI messages as seen in figure 3.

As recited in claims 18, 21, and 22, Sgroi discloses the method, wherein both the first incoming real-time control signal and the second incoming control signal comprise values, and wherein the control signal processor performs one operation

selected from the group consisting of: multiplication of the values of the first and second incoming control signals; addition of the values of the first and second incoming control signals as seen in figures 1 and 3.

As recited in claim 19, Sgroi discloses method, wherein a temporal sequence of the first and second incoming control signals is used to generate the at least one outgoing digital control signal as seen in figure 3.

Sgroi does not disclose that the control signal generator is one of transient or low frequency oscillator. Sgroi does not provide MIDI input.

However, Longo discloses a system for the generation of at least one outgoing real-time digital control signal based on at least one incoming control signal, the system comprising: an incoming control signal interface (200) adapted to receive the at least one incoming control signal; at least one control signal generator (210) adapted to generate the at least one outgoing real-time digital control signal based on the at least one incoming control signal, an outgoing control signal interface (Midi out; figure 2) adapted to communicate the generated at least one outgoing real-time digital control signal; and wherein the at least one incoming control signal is used to control events and parameters associated with the at least one control signal generator as seen in figures 2 and 3. Longo discloses at least one control signal generator adapted to generate the at least one outgoing real-time digital control signal based on the at least one incoming control signal, wherein said at least one control signal generator is selected from the group consisting of transient generator (figure 2).

Longo further provides MIDI in and MIDI out as seen in figures 8 and 9 (column 8, lines 7-15).

As recited in claims 18, 21, and 22, Longo discloses the method, wherein both the first incoming real-time control signal and the second incoming control signal comprise values, and wherein the control signal processor performs one operation selected from the group consisting of: multiplication of the values of the first and second incoming control signals; addition of the values of the first and second incoming control signals as discussed in column 25, lines 29-42.

As recited in claims 20 and 23-26, Longo discloses the method for processing an incoming real-time MIDI control signal, the method comprising: receiving the incoming real-time MIDI control signal; generating an outgoing real-time MIDI control signal, wherein said generating is performed by one or more message conversion methods selected from the group consisting of: changing an incoming MIDI note number value to an outgoing MIDI continuous controller value (figure 2); changing an incoming MIDI note velocity value to an outgoing MIDI continuous controller value (figure 2); changing an incoming MIDI continuous controller value to an outgoing MIDI note value (figure 2); changing an incoming MIDI continuous controller value to an outgoing MIDI continuous controller value with scaling (figure 4); and communicating the generated outgoing real-time MIDI control signal to an external system via an outgoing control signal interface (figure 2).

Smith et al. disclose at least one control signal generator (110) adapted to generate the at least one outgoing real-time digital control signal based on the at least

one incoming control signal, wherein said at least one control signal generator is selected from the group consisting of a low frequency oscillator (column 4, lines 19-59; column 5, lines 41 through column 6, line 34).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the teachings of Longo and Smith et al., with Sgroi because Longo allows MIDI input to be processed as well as provide a particular signal generator for controlling the input signal, wherein a transient generator is used as the control signal generator, wherein Sgroi and Longo process an input from a keyboard, wherein keyboards commonly provide MIDI. Smith et al. provides a control signal generator, which includes a LFO, thereby generating control signals at frequency below an audio frequency. In combination, the prior art provides the teachings of the present invention, wherein digital control signals are used to control events and parameters. While only one limitation of LFO or transient generator need be referenced, the combination provides both.

Allowable Subject Matter

3. Claims 27-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

4. Applicant's arguments with respect to claims 1-4, 7-15, and 18-20 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marlon T Fletcher whose telephone number is 571-272-2063. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on 571-272-2071.

Marlon T Fletcher
Primary Examiner
Art Unit 2837

MTF
July 26, 2004